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This report consists of 19 chapters developed by an interdisciplinary group of research specialists who have done an excellent job in presenting the region with respect to its human, physical, and economic resources, cultures, obstacles, and potentials for economic development. The subjects of each chapter were well selected and developed so as to present the reader with a comprehensive understanding of the progress made by the people in the region, as well as the region's many problems. The human resource of the region and the investments needed to properly develop this important national resource received adequate recognition. The chapter on agriculture could have been more helpful, if the authors had incorporated the 1959 agricultural census data in their analyses. Important changes in the structure of agriculture occurred during the period 1954-1959.

The Southern Appalachian Studies group made a timely and important contribution by providing those interested in furthering the development of this important region with an objective analytical perspective of all aspects governing economic and social activity. In addition, early recognition is given to the overriding influences of our national and international policies and programs. Future development of the Southern Appalachian is a challenge to our Nation. It is the hope of those concerned that this comprehensive regional study will be translated into sound, progressive, and practical program activities for the purpose of ameliorating the intolerable conditions of poverty that prevail throughout the region.

E. L. Baum

*Mathematics for Economists: An Elementary Survey.*

By Taro Yamane. Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 554 pages. 1962. \$9.75.

THIS BOOK is, as the title indicates, an elementary survey of mathematics for economists. It is one of the most complete treatments of mathematics commonly used in economics that has yet appeared. Students with a course in algebra will find little difficulty in understanding the material presented.

The main topics covered in the book are sets, functions and limits, differentiation, integration, maxima and minima of functions (both unconstrained and constrained), series, differential

equations, difference equations, vectors and matrices, probability and distributions, statistical concepts and hypotheses testing, game theory, and regression and correlation analysis. The chapter on set theory is brief and set notation is not used in the rest of the book, with the exception of the chapter on probability. The treatment of the other sections of the book are thorough and done with great clarity. The sections on maxima and minima and on vectors and matrices are particularly good. Also, the mathematical treatment of regression and correlation analyses, together with the coverage of matrix algebra and statistical concepts, provide students with a basis for an introduction to econometrics.

The topics are treated in a heuristic manner and proofs and derivations are not provided. However, this is not a serious shortcoming since the book is a survey of mathematics.

Economic problems and concepts are presented throughout the book and exercises and references are given at the end of each chapter. It is unfortunate that the author did not include more economic problems at the end of the chapters. This would have given students a better appreciation of the roll of mathematics in economics.

This book provides an excellent text for a full year course in mathematics for economists. Some of the subject matter will have to be supplemented with other references; in particular, the sections on set and game theory. However, the need for supplemental material is minimal.

Martin E. Abel

*Vertical Integration in Theory.*

By O. P. Blaich. Institute of Agriculture, University of Minnesota, St. Paul. 82 pages. 1961.

SINCE vertical integration problems caught the interest of the profession 6 or 7 years ago, enough has been written to conclude that (1) changing vertical interfirm market relationships raise some problems, (2) alleviate others, and (3) the historical novelty of such changes has been exaggerated. A review of the material also shows that the conceptual apparatus which has been used to approach the subject is piecemeal and particularistic. Blaich's report deserves attention as an attempt to overcome this difficulty.